

REMARKS

Applicant appreciates the thorough review, however reconsideration of the Examiner's rejections is respectfully requested. Applicant has amended claims 2, 5, 6, 7, 8 to more particularly claim Applicant's invention and to remedy antecedent bases for certain elements. The Examiner rejected all of Applicant's claims 1-16 in the application. Claims 1-16 were rejected under the provisions of 35 U.S.C. § 102 (b) as being anticipated by U.S. Patent No. 3,934,543 issued to Howard (hereinafter "Howard" or "the '543 patent"). As discussed below, Applicant's claimed invention is patentable over Howard because Adamson does not disclose each and every claim element in the claims rejected under 35 U.S.C. § 102 (b). For example, Howard does not disclose nor suggest a housing that is mounted to a filter. The housing in Howard is set aside from the filter in the heating and air conditioning system, and no structure for the filter monitoring device in Howard is mounted, nor adapted to be mounted to the filter. Thus, claims 1-16 are all patentable over Howard. Accordingly, Applicant respectfully submits that claims 1-16 are all in condition for allowance. Reconsideration of the application and allowance of all claims are respectfully requested.

Rejections under 35 U.S.C. § 102 (b)

Claims 1-16 were rejected under 35 U.S.C. § 102 (b) as being anticipated by Howard. Under 35 U.S.C. § 102, the reference must teach every aspect or element of the claimed invention. See M.P.E.P. § 706.02; see also M.P.E.P. § 2131. "The identical invention must be shown in as complete detail as is contained in the . . . claim." M.P.E.P. § 2131 (quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989)). "The elements must be arranged as required by the claim, but . . . identity of terminology is not required." M.P.E.P. § 2131 (citing *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990)). Therefore, in order for the rejection

under 35 U.S.C. § 102 (b) to be proper, the Howard reference must teach each and every element, including requirements to the arrangements of elements, of rejected claims 1-16.

Howard does not teach each and every element of any of claims 1-16 rejected under 35 U.S.C. § 102 (b). Independent claim 7 requires an air filter and that the detector housing is mounted to the air filter. Method claim 14 also requires the step of "mounting the housing to the filter." Figures 9 and 10 in Howard show the cover 22, which encloses the filter monitoring device, set aside from the filter 142. Hoses or pressure lines 146 and 148 extend from locations in the air ducts that are upstream and downstream of the filter 142. The upstream pressure line 146 communicates air upstream of the filter 142 to upstream inlet 11 (Fig. 2) for engagement with the upstream side of diaphragm 12. See the '543 patent (Col. 7: ll. 10-21). Downstream pressure line 148 communicates air downstream of the filter 142 to downstream inlet 13 (Fig. 2) for engagement with the downstream side of the diaphragm 12. See the '543 patent (Col. 7: ll. 10-21). There is nothing in Howard that teaches or suggests mounting the housing or cover 22 of the Howard filter monitoring device to the filter 142. Claims 1-6 are also for a detector "for mounting to an air filter." Independent claim 1 also requires that the housing of the detector is adapted to be mounted to the air filter. Howard does not disclose or suggest that Howard's filter monitoring device is mounted, or adapted to be mounted to the filter in Howard. Therefore, Howard does not anticipate claims 1-16 under 35 U.S.C. § 102 (b) because Howard does not teach or disclose that the housing of the detector is mounted to the filter (claim 1), or is mounted to the filter (claims 7 and 14).

Moreover, any such attempt would frustrate the operation of the Howard filter monitoring device due to the locations of the upstream and downstream inlets 11, 13. Both of the upstream and downstream inlets 11, 13 are located on the base member 10. If base member 10 were

placed against the filter 142, upstream and downstream inlets 11, 13 would be receiving air from the same upstream or downstream side of the filter 142. Thus there would be no differential acting upon the diaphragm 12, hence rendering the Howard filter monitoring device useless. Furthermore, Howard does not disclose extending the cover 22 through the filter 142 so that the inlets 11, 13 are on the proper upstream and downstream sides of the filter because this obviates the ability of reading the "CLEAN" message printed on the indicator flag 16, which is supposed to be visible through the window 24. Finally, locating the Howard filter monitoring device in the duct, and mounted to the filter 142, obviates the ability of the user to see the indicator flag 16 through the window 24, which is the reason the pressure lines 146, 148 communicated the upstream and downstream air to the filter monitoring device as shown in Figures 9 and 10. Accordingly, there would be no motivation to modify the Howard device to be adapted to be mounted to the filter because this would render the Howard device inoperable, and obviate its indicator ability. As "[t]he elements must be arranged as required by the claim," Howard cannot anticipate claims 1-16 because Howard does not teach or disclose every claim limitation. M.P.E.P. § 2131 (citing *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990)). Therefore, claims each of claims 1-16 are patentable under 35 U.S.C. § 102 (b) as these features are not taught by Howard. Moreover, Howard does not make obvious Applicant's invention because Howard does not teach or suggest every claim limitation. Therefore, Applicant respectfully requests the Examiner remove the rejections, as all of the claim elements are not taught by Howard.

Another feature that is not shown in Howard is the "stationary electrical contact" mounted in the housing (claims 1, 14) or in the cavity (claim 7) that are now present in claims 1-16. The Examiner alleges that Howard's electrical contacts 70 satisfy these elements. The portion of electrical contacts 70 that engages the Howard electric contract strip 105 is the spring

portion 78 of each contact 70. As shown in Figures 7A-7B, the spring portions 78 move when the tumbler 90 of the indicator flag 16 (to which the electrical strip 105 is mounted) rotates after being actuated by the mechanism 18 in response to movement of the elongated pivot arm 14 moving with the diaphragm 12. As shown in Figures 7A-7B, the electrical contacts 70 include spring portions 78 that bend and move downward with the movement of the tumbler 90 after being contacted by the electrical strip 105. Allowing the spring portions 78 to move with the downward movement of the electrical strip helps to ensure that the connection between the contacts 70 and 105 is maintained. Howard discusses that maintaining the connection is important. See the '543 patent (Col. 6: ll. 40-49). Accordingly, Howard does not disclose or teach in the specification or in the figures a stationary electrical connector because the spring portions 78 of the electrical connectors 70 in Howard move with the movement of the electrical connector strip 105 and the tumbler 90. Thus, each and every claim element each of Applicant's independent claims are neither disclosed nor suggested by Howard. Therefore, each of claims 1-16 are patentable under 35 U.S.C. § 102 (b) as the stationary electrical contact elements of independent claims 1, 7, and 14 are not taught by Howard.

Another feature that is not shown in Howard is the "moveable electrical contact mounted to the pressure responsive element" (claims 1 and 14), or "mounted to the diaphragm" (claim 7). There is no electrical contact in Howard that is mounted to the diaphragm 12, which is the pressure responsive element. The electrical contact strip 105 does not satisfy the "mounted to" requirement because the electrical contact strip 105 is mounted to the tumbler 90 of the indicator flag 16, which is supported or mounted to a pair of bearing supports 86 extending upward from the base member 10 of the Howard filter monitoring device via the axles 88 of the indicator flag 16. See the '543 patent (Col. 5: ll. 30-34, and Col. 4: l. 64-68); see also Figures 2, 5, and 7A-7B

of the '543 patent. Accordingly, Howard does not anticipate claims 1-16 because Howard's electrical contract strip 105 is not "mounted to" Howard's diaphragm 12. Thus, each and every claim element in each of Applicant's independent claims are neither disclosed nor suggested by Howard. Therefore, each of claims 1-16 are also patentable under 35 U.S.C. § 102 (b) as the "mounted to" requirements of the moveable electrical contact elements of independent claims 1, 7, and 14 are not taught by Howard.

Dependent claims 2-6, 8-13, and 15-16 are each allowable over the Howard patent because they depend from their respective independently claims 1, 7, and 14, which are allowable for the reasons discussed above. Moreover, several of the dependent claims have elements that are also not taught by Howard. For example, Howard does not teach a tube that penetrates at least a portion of the filter while the housing abuts the downstream side of the filter, as claimed in claim 8. Such a tube is illustrated as tube 17 in Applicant's Figures 1 and 2. As shown in Figures 9 and 10 of the '543 patent, Howard's tubes or pressure lines 146, 148 do not penetrate the filter 142. Pressure lines 146, 148 merely receive and communicate air from the air ducts located upstream and downstream of the filter 142. Nothing is shown or suggested as penetrating the filter 142. Moreover, Howard's filter monitoring device is never shown abutted against the downstream side of the filter 142. Accordingly, Howard does not teach each and every element of claims 5 and 8.

Howard also does not disclose that the tube has a closed upstream end and a sidewall containing a port adjacent the upstream end, as claimed in claim 6 and 9. Applicant's tube 17 illustrates such a device in Applicant's Figures 1 and 2. Howard's upstream tube or pressure line 146, however, is merely to communicate air from the portion of the air duct located upstream of the filter 142 to the upstream sides of the diaphragm via upstream inlet 11. Howard does not

disclose any special feature about pressure lines 146. Moreover, from the arrangements shown in Howard's Figures 9 and 10, if an upstream side of the pressure line 146 were closed, then there would no longer be any air flow into the upstream pressure line 146 because the end of the upstream pressure line 146 is the portion connected to the air duct to receive the air from upstream of the filter 142. Nothing in Howard's discussion in Column 3, lines 10-55 provides any further description to the features of pressure line 146, nor is contrary to the manner in which the Howard device is arranged in Figures 9-10. Accordingly, Howard does not teach or suggest a tube that has a closed upstream end and a sidewall containing a port adjacent the upstream end. Therefore, Howard does not teach each and every element of claims 6 and 9.

Furthermore, with respect to claim 10, Howard does not disclose that Howard's electrical contact 105 is a flexible metallic strip "mounted flush to the downstream side of the diaphragm." The Examiner is correct that Howard's strip is mounted to the tumbler 90 of the indicator flag 16. However, is clear from Figures 2, 5, and 7A-7B the indicator flag 16 spaced away from the Howard diaphragm 12, separated by at least the elongated pivot arm 12. There is no flexible metallic strip mounted flush to the downstream side of the Howard diaphragm 12 that is part of the alleged moveable electrical contact 105, as required in claim 10. The plain meaning of the claim language is that the strip is mounted to the diaphragm, on the diaphragm's downstream side – not that it can be simply mounted somewhere in the device as long as it is downstream of the diaphragm. Therefore, claim 10 is allowable because Howard does not teach or suggest every element of claim 10.

Furthermore, with respect to claims 12 and 13, Howard does not teach or disclose either an upstream plate secured to the body (of the housing) over the central recess, or a downstream plate secured to the body opposite the upstream plate. The Examiner alleged that Howard's

peripheral sidewall 32 was the upstream plate and that a portion of the downstream inlet 13 (which is merely a circular wall around an opening) was the downstream plate. Neither of these parts in Howard are plates. Therefore, claims 12 and 13 are allowable because Howard does not teach the upstream and downstream plates as claimed in claims 12 and 13, respectively. Moreover, the Howard upstream inlet 11 does not extend through the Howard peripheral sidewall 32, as required in claim 12. Furthermore, as shown in Howard's Figure 2, the Howard downstream inlet 13 is not located "opposite" the Howard peripheral sidewall 32. Thus, Howard's downstream inlet is not opposite the upstream plate," as required in claim 13.

Dependent claims 2-6, 8-13, and 15-16 are each allowable over the Howard patent because they depend from their respective independently claims 1, 7, and 14, which are allowable for the reasons discussed above. For the reasons discussed above, dependent claims 5 and 8, 6 and 9, 10, and 12-13 each have patentable features that are not disclosed or suggested in Howard. Not all of the distinctions between the prior art and Applicant's dependent claims have been made by Applicant. Applicant is not waiving any additional arguments that have not been made with respect to claims 1-16.

CONCLUSION

Applicant respectfully submits that claims 1-16 are all in condition for allowance. Reconsideration of the application and allowance of all claims are respectfully requested. In view of the foregoing Remarks, Applicant respectfully submits that all the pending claims are all allowable, and Applicant respectfully requests the issuance of a Notice of Allowance.

Respectfully submitted,

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